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Building & Highway Material Testing Laboratory

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JAS-ANZ BSCIC ISO 9001 REGISTERED

Job No.: CTCE/BBMP/WNo.17/KS/BM/Shape.T/2014-15 : 02.05.2014

DETERMINATION OF FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

Client	: **Asst. Executive Engineer,** Yeshwanthapura Sub Division, BBMP, Bangalore.
Agency	: **Mr. K. Shivakumar,** Contractor, Bangalore.
Name of Work	: Providing and laying HDPE Water line in Mutyalanagara Block - 2 in JP Park, Ward No. 17, BBMP, Bangalore.
Reference	: EE/RRND/Wo. No./234/2013-14 Dated: 07.02.2014
Technical Reference	: IS 2386(Part 1) 1963 (RA 2007)
Type of Mix	: Bituminious Macadam
Date of Testing	: 02.05.2014

Flakiness Index = **11.35%**

Elongation Index = **13.61%**

Result : Combined Flakiness & Elongation index **24.96%**

Comments:

→ Maximum allowable flakiness & Elongation Index for Bituminous Macadam is 30%

Note:

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DETERMINATION OF FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

Client	: **Asst. Executive Engineer,** Yeshwanthapura Sub Division, BBMP, Bangalore.
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Technical Reference	: IS 2386(Part 1) 1963 (RA 2007)
Type of Mix	: Bituminious Macadam
Date of Testing	: 02.05.2014

Flakiness Index = **11.64%**

Elongation Index = **13.58%**

Result : Combined Flakiness & Elongation index **25.22%**

Comments:

→ Maximum allowable flakiness & Elongation Index for Bituminous Macadam is 30%

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Job No.: CTCE/BBMP/WNo.17/KS/BM/Stripping/2014-15 03.05.2014

Stripping Value of Road Aggregates (Static Immersion Test)

IS: 6241

Client	**Asst. Executive Engineer,** Yeshwanthapura Sub Division, BBMP, Bangalore.
Agency	**Mr. K. Shivakumar,** Contractor, Bangalore.
Name of the work	Providing and laying HDPE Water line in Mutyalanagara Block - 2 in JP Park, Ward No. 17, BBMP, Bangalore.
Reference	EE/RRND/Wo. No./234/2013-14 Dated: 07.02.2014
Type of Mix	Bituminous Macadam
Date of Testing	03.05.2014

Type of binder : 60/70
Percentage of binder used : 5.0% by wt.
Total weight of aggregate : 200 g
Total weight of binder : 10 g
Temperature of water-bath : 40° C

Observation Number	Stripping, Percentage	Average, Percentage	Average Retained Coating, %
1	3.0	3.20	96.80
2	3.2		
3	3.4		

Comments:

→ Minimum allowable Aggregate retained coating for Bituminous Macadam is 95%

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Job No.: CTCE/BBMP/WNo.17/KS/BM/Sp_Wa/2014-15 03.05.2014

Specific Gravity And Water Absorption Test

IS: 2386 Part III

Client	**Asst. Executive Engineer,** Yeshwanthapura Sub Division, BBMP, Bangalore.
Agency	**Mr. K. Shivakumar,** Contractor, Bangalore.
Name of the Work	Providing and laying HDPE Water line in Mutyalanagara Block - 2 in JP Park, Ward No. 17, BBMP, Bangalore.
Reference	EE/RRND/Wo. No./234/2013-14 Dated: 07.02.2014
Source / Location	Hotmix Plant
Type of Mix	Bituminous Macadam
Date of Testing	03.05.2014

Sl. No.	Details	Notation	Test Number			Mean Value
			Test 1	Test 2	Test 3	
1	Weight of aggregate suspended in water with the basket	W_1 g	2038	2035	2027	
2	Weight of basket suspended in water	W_2 g	750	750	750	
3	Weight of saturated aggregate in water	$(W_1 - W_2) = W_s$ g	1288	1285	1277	
4	Weight of saturated surface dry aggregate in air	W_3 g	2037	2033	2029	
5	Weight of water equal to the volume of the aggregate	$(W_3 - W_S)$ g	749	748	752	
6	Weight of oven dried aggregate	W_4 g	2023	2021	2018	
7	Specific Gravity	$W_4/(W_3-W_S)$	2.701	2.702	2.684	2.692
8	Apparent Specific gravity	$W_4/(W_4-W_S)$	2.752	2.746	2.723	2.738
9	Water Absorption	$((W_3-W_4)*100)/W_4$	0.69%	0.59%	0.55%	0.62%

Comments:

→ Maximum allowable Aggregate Water absorption value for Bituminous Macadam is 2.0%

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Job No.: CTCE/BBMP/WNo.17/KS/BM/Bitumen/2014-15 03.05.2014

BITUMEN DETERMINATION OF BITUMINOUS MACADAM MIX

As per IRC : SP : 11 - 1984

CLIENT	**Asst. Executive Engineer,** Yeshwanthapura Sub Division, BBMP, Bangalore.
AGENCY	**Mr. K. Shivakumar,** Contractor, Bangalore.
NAME OF THE WORK	Providing and laying HDPE Water line in Mutyalanagara Block - 2 in JP Park, Ward No. 17, BBMP, Bangalore.
REFERENCE	EE/RRND/Wo. No./234/2013-14 Dated: 07.02.2014
SAMPLE I/D	HDPE Water line in Mutyalanagara Block - 2 in JP Park, Ward No. 17
DATE OF TESTING	03.05.2014

BITUMEN CONTENT DETERMINATION

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	481.5	482.5
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	18.5	17.50
7. Bitumen content in %	3.70	3.50
8. Average	**3.60**	

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